Participation in Adult Education in British Columbia

An Analysis of Statistics Canada Adult Education and Training Surveys

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PREFACE

The Centre for Policy Studies in Education (CPSE), UBC) has prepared this report, under contract to the Centre for Curriculum and Professional Development, for the Ministry of Advanced Education, Training and Technology. It is based on an analysis of three Statistics Canada Surveys.

This report represents the views of the author and not necessarily those of the Ministry of Advanced Education, Training and Technology. The report's main purpose is to analyze British Columbia's participation in adult education and training. Implications for public policy and the provision of adult education are presented.

CHAPTER 1
INTRODUCTION

Context

In recent years, education and training have once again become a top priority in industrialized countries. This was also the case in the 1960s, which witnessed an explosion in financial support for, and enrolment in, secondary and post-secondary education. There are, however, fundamental differences between these two reform periods. What in the 60s became a demand for more education for young people, has, in the 90s, become a debate about lifelong learning and training for adults and how it might best be provided.

The pressure for an expansion of educational opportunities in the 1960s had both economic and social roots. At that time developments within the discipline of economics, especially human capital theory, had far-reaching effects on educational policy making. Proponents of human capital theory maintained that there exists a strong link between investments in education and economic growth (Denison, 1962; Schultz, 1960). The most attractive and important element of this theory was the claim that a more even distribution of investment in education would equalize individual earnings (Schultz, 1960). In the 1960s, this assumption was important because it linked the economic justification for the reform of education with social demands for equality of opportunity. Greater equity in educational opportunity was seen as a major leveling force in society.

The focus during the 1960s was on increasing the percentage of the youth cohort continuing on to secondary and post-secondary education. Reforms were aimed at increasing the number of students admitted to the traditional higher education system, and at the creation of new institutions such as community colleges. In short, the arena was the formal system and the target group was the youth population. With the exception of a few lonely voices talking about recurrent and lifelong education, there was no serious questioning of the use of a *front-end* model for educational policy.

Today the dynamics are fundamentally different from those which drove the 1960s wave of reform. The combined effects of recent technological break-throughs in micro-electronics and

telecommunications are having a profound structural impact on the economy, pushing it towards what has popularly come to be known as a global information economy. Consequently, human resource investments are again being viewed as critical to the entire process of economic development. A nation's competitiveness in the world market is, to a large degree, expected to depend on the quality of its human resources — people's knowledge, learning, information and skilled intelligence. The assumptions involved today include the following:

1. Every factor of production other than work-force skills can be duplicated anywhere around the world. Capital now moves freely across international boundaries, so much so that the cost of capital in different countries is rapidly converging. State-of-the-art factories can be erected anywhere. The latest technologies flow from computers in one nation, up to satellites parked in space, then back down to computers in another nation — all at the speed of electronic impulses. It is all fungible — capital, technology, raw materials, information — all except for the most critical part, the one element unique to each nation: its work force.

2. Because all of the other factors can move so easily to any place on earth, a work force that is knowledgeable and skilled at doing complex things attracts foreign investment. The relationship forms a virtual circle: well-trained workers attract global corporations, which invest and give the workers good jobs; the good jobs, in turn, generate additional training and experience. As skills increase and experience accumulates, a nation's citizens add greater and greater value to the world — and command greater and greater compensation from the world, improving the country's standard of living (Reich, 1990:58).

The point of departure is the changing nature of work, which is altering the structure of the labour market as well as work processes and job content. This is taking place in a market which is becoming increasingly internationalized, and in which a nation's standard of living will be determined by how well it can compete at the international level. The key word is *flexibility*: how effectively can the labour force adjust to and take advantage of the new context?

In the U.S., the evidence of this concern is everywhere. For example, the Massachusetts Institute of Technology Commission on Industrial Productivity concluded in its 1989 report, ***Made in America: Regaining the Productive Edge***:

> Without major changes in the ways schools and firms train workers over the course of a lifetime, no amount of macro-economic fine-tuning or technological innovation will be

> able to produce significantly improved economic performance and a rising standard of living. (Dertouzos, M., Lester, R., and Solow, R., 1989:81)

Moreover, educational policy is no longer focused only on the education of children and adolescents. Given declining birth rates and the aging of the work force, economic productivity will increasingly depend on what kind of education and training the existing labour force receives. Policy statements and empirical evidence on the importance of adult training are accumulating. According to Carnevale and Gainer (1989), education prior to work and on-the-job training accounted for 81 percent of the expansion of the U.S. productive capacity between 1929 and 1982; on-the-job training accounted for 55 percent of this growth alone. They also estimated that 75 percent of American workers will require re-training by the year 2,000.

The level and distribution of educational attainment in a society is an important economic variable for at least two reasons (OECD, 1989a):

- it has a macro-economic impact on the nature, quantity and quality of the goods and services produced by an economy; and
- it has an impact on the distribution of income among the population.

In addition, educational attainment influences labour market adjustment and facilitates structural adjustment, as well as the overall capacity of societies to adapt to changing demands and conditions.

Despite the expansions that have taken place in the educational systems since the 1960s, in OECD countries large numbers of the active population only have a low level of educational attainment (OECD, 1989b). Looking at those aged 25-45, who hopefully will remain in the labour force for a substantial period, the statistics are, on the whole, alarming. The concerns, although overwhelmingly economic, have also to be addressed from an equity perspective.

The "functionally illiterate" risk being marginalized, unemployed, or having access to little more than unstable, low-paying jobs. Women's access to jobs is regulated at least partially by their access to opportunities for training. Aboriginals, minority ethnic and racial groups, and the disabled are demanding more access to training. Those who lack initial skills and qualifications find themselves cut off from the further education and training by which they could acquire additional skills and qualifications. Growing long-term unemployment, particularly among disadvantaged groups, points to the necessity of educational interventions targeted at those who have not participated on an equal basis in the past.

Purpose and Scope

With the "human factor" assuming pre-eminence as a factor of production, and escalating concerns regarding the level and distribution of educational attainment, participation in adult education has come to the forefront of the public policy debate. It is in this context that the present paper, which relates the literature on participation in adult education to the present debate on a changing economy and the consequences for skills and training, shall be considered. In the first section a perspective on participation in adult education is presented.

Using three Statistics Canada surveys, the 1984 Adult Education Survey, the 1986 Adult Education and Training Survey, and the 1991 Adult Education and Training Survey, the purpose of this study is to analyze British Columbians' participation in adult education and training with regard to:

- amount of adult education and training in British Columbia;
- socioeconomic and demographic profiles of participants and non-participants;
- types, duration and locations of adult education and training;
- student financing;
- employers' involvement in adult education and training;
- implications for public policy and for the provision of adult education.

The fact that the Canadian workforce receives substantially less education and training than employees in other major industrialized countries raises the crucial question as to whether or not there is a major increase in adult education and training underway. Unfortunately, the three surveys are not adequate when it comes to addressing changes over time, as their questionnaires are not identical. In fact, while the 1986 and 1991 surveys have the same structure and largely identical questions, the 1984 survey is substantially different. Further, even if the two latest studies are almost identical, subtle differences in one or two questions could have had substantial effects on the answers. Thus, although an attempt will be made to discuss changes over time, it is important to stress, as will be done throughout this report, that some of the differences may have been caused by the instruments used and are not a reflection of actual change.

Before analyzing the data on participation, the distribution of educational attainment among British Columbians will be discussed.

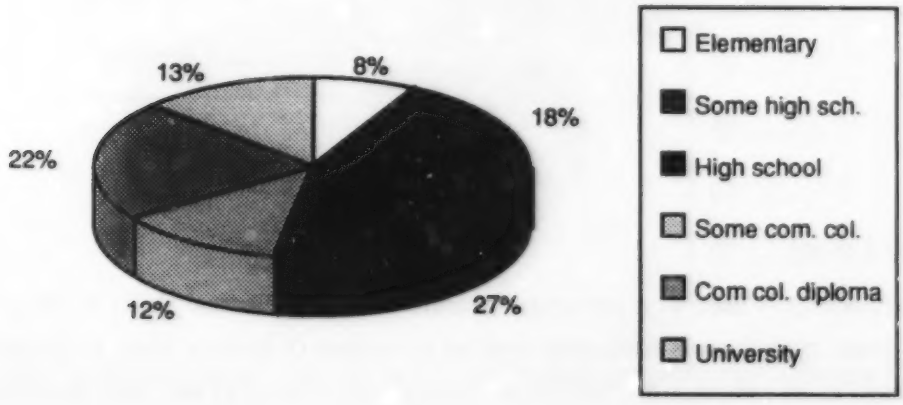
CHAPTER 2
DISTRIBUTION OF EDUCATIONAL ATTAINMENT AND BASIC SKILLS AMONG BRITISH COLUMBIANS

Educational Attainment

British Columbians, like Canadians in general, are quite well educated in international terms. Thirteen percent of British Columbians aged 17-69 in 1990 had participated in some university course work. However, it should be noted that roughly a quarter had not completed high school. Among the latter was a small group that was still at high school.

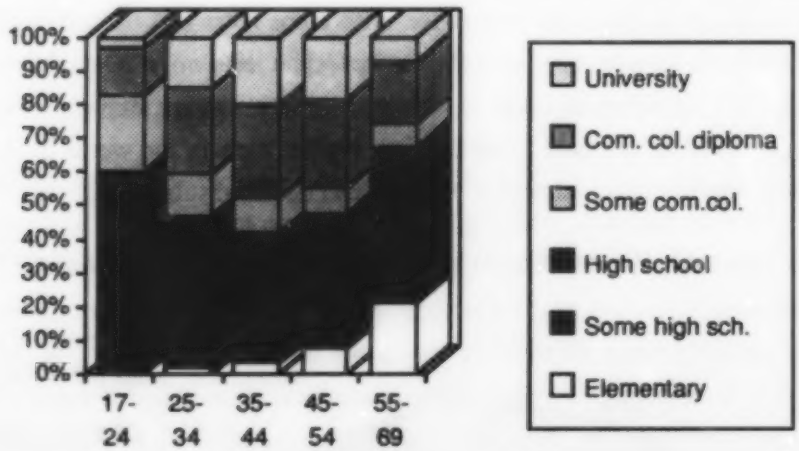
On the whole, as an OECD analysis showed, the educational attainment of the Canadian working-age population compares favorably with that of most other OECD countries. Only the U.S.A. had a larger share of the population with some form of post-secondary education than Canada (39 versus 35 percent). The figure for Japan was only 20 percent (OECD, 1989b). Canada's and B.C.'s advantage has to do with the fact that the expansion of the educational system occurred earlier in North America than in other parts of the world. It is worth noting that Canada's position of relative advantage in 1975 had declined substantially by 1987 .

Chart 1. Educational attainment, British Columbians aged 17-69 (1990)



A low educational attainment is naturally most common among the oldest age group, 55-69, that often lacked real possibilities to continue beyond elementary education. It is commonly understood that the younger generations have had better opportunities and are better educated. This is of course true. However, as can be seen in Chart 2, this process has not been as evident in the last couple of decades. The most dramatic difference is between age groups 45-54 and 55-69. In fact, those aged 25-34 are no better educated than those aged 35-44. The consequences of this are quite far-reaching as it means that the process by which retiring people with low education were replaced by much more highly qualified individuals could come to a halt or at least slow down substantially. Thus the problem is not only that lower birthrates will result in fewer young people replacing those that retire, but that soon these may not be better educated than the people they replace. Thus the strong demand, according to current policy documents, for a better skilled workforce will largely have to be met through further education and training of the adult population. Further, the pressing problem of high school dropouts must be tackled.

Chart 2. Educational attainment by age group (1990)



Literacy Level

Level of schooling is used as a surrogate measure of the intellectual skills of the population. Similarly grade attainment is commonly used as a measure of literacy level. In Canada grade 9 has been used as an indicator of "functional literacy". As a result of the 1989 Statistics Canada survey of "Literacy Skills in Daily Activities" there now exist actual measures of adult literacy

and numeracy in Canada (see OECD; 1992; Statistics Canada, 1991). This survey has been used to describe literacy and numeracy levels among British Columbians.

The survey distinguished five levels as follow (Statistics Canada, 1991):

• Level 1: Persons at this level have difficulty dealing with printed materials. They most likely identify themselves as being unable to read.

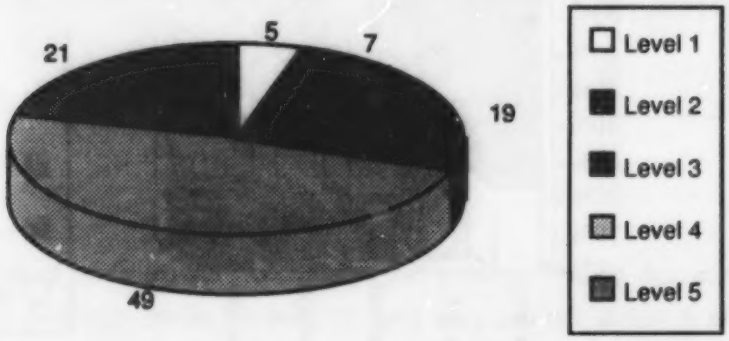
• Level 2: Persons at this level can use printed materials only for limited purposes such as finding a familiar word in a simple text. They would likely recognize themselves as having difficulties with common reading materials.

• Level 3: Persons at this level can use reading materials in a variety of situations provided the material is, clearly laid out and the tasks involved are not too complex. While these people generally do not see themselves as having major difficulties, they tend to avoid situations requiring reading.

• Level 4: Persons at this level meet most everyday reading demands. As this is a large and diverse group which exhibits a wide range of reading skills, it has been divided into two levels: level 4 with an adequate level of reading skills, and level 5, made up of those with high reading skills.

• Level 5: Persons in this group exhibit a high level of reading skills.

Chart 3. Literacy level, British Columbians aged 16-69 (1989)



As Chart 3 indicates, seventy percent of British Columbians performed at levels 4 or 5 and only 12 percent fell in levels 1 or 2. Charts 4 and 5 illustrate the strong relationship between reading ability and age and education (see charts 4 and 5). Among those aged 55-69, 20 percent fell in the two lower levels and only 8 percent had high reading proficiency, as compared to 6

and 28 percent, respectively, among those aged 16-24. However, as was observed in connection with educational attainment (Chart 2) the differences between the young and the middle-aged are surprisingly small.

Chart 4. Literacy level by age group (1989)

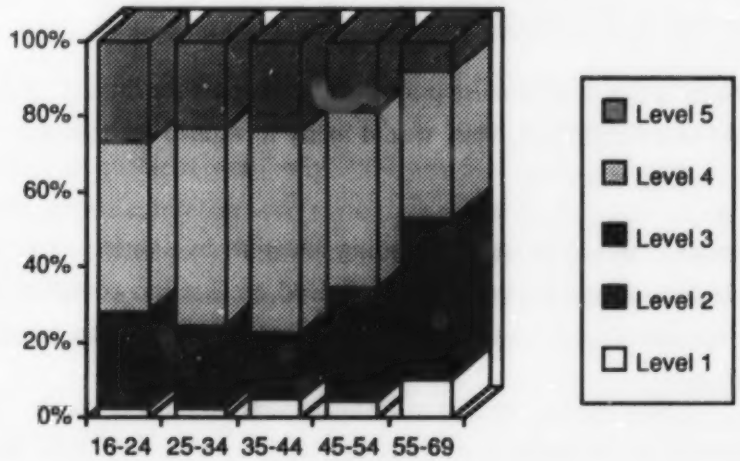
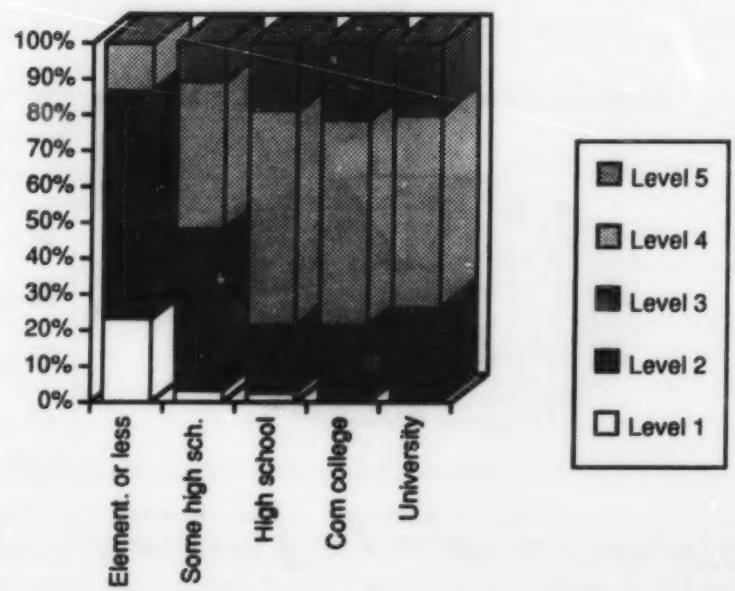


Chart 5. Literacy level by education (1989)



The low literacy level of the oldest people reflects the relationship between level of education and reading ability (Chart 5). Among those that had only elementary education or less, more than half fell in levels 1 or 2. It is interesting to note that high school completion was a good indicator of an adequate literacy level.

Numeracy Level

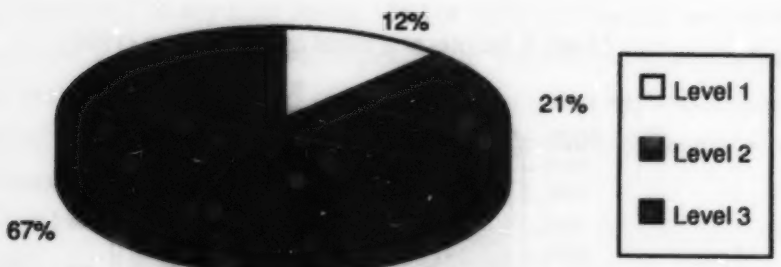
Proficiency in numeracy is organized into the following three categories (Statistics Canada, 1991):

• Level 1: Persons at this level have limited numeracy abilities which enable them to, at most, locate and recognize numbers in isolation or in a short text.

• Level 2: Persons at this level can deal with material requiring them to perform a simple numerical operation such as addition or subtraction.

• Level 3: Persons at this level can deal with material requiring them to perform simple sequences of numerical operations which enable them to meet most everyday demands.

Chart 6. Numeracy level, British Columbians aged 16-69 (1989)



In 1989, two out of three British Columbians had numeracy skills that enabled them to meet most everyday demands while 12 percent[1] had very limited skills. A comparison of Charts 4 and 7 suggests that numeracy skills were not as strongly related to age as were reading skills. Those aged 16-24 had lower numeracy skills than the middle-aged groups. In fact, they achieved only slightly better on the numeracy test than the those aged 55-69. However, as

[1] Includes persons who reported having no skills in either of Canada's offical la..guages and persons whose reading skills were too limited to undertake the main numeracy test items.

presented in Chart 8, there was a clear relationship between numeracy skills and educational attainment.

In summary, the distribution of educational attainment, literacy levels and numeracy proficiency among British Columbians, in combination with present demographic trends, call attention to the amount of adult education and training among British Columbians.

Chart 7. Numeracy level by age group (1989)

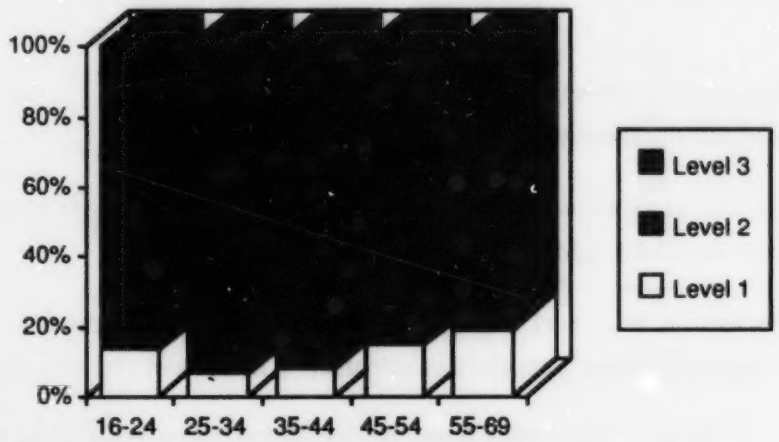
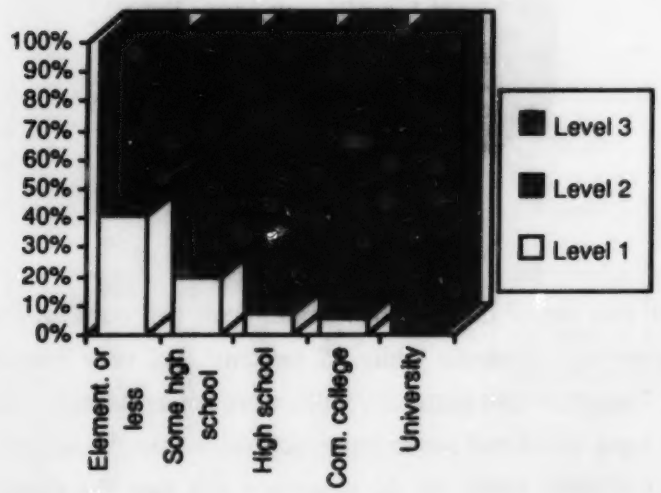


Chart 8. Numeracy level by education (1989)



CHAPTER 3
STATISTICS CANADA'S ADULT EDUCATION AND TRAINING SURVEYS

Statistics Canada has conducted three household-based surveys specifically designed to collect information on adult education and training. The first, the 1984 Adult Education Survey (AES), was commissioned by the Department of the Secretary of State, while the 1986 Adult Training Survey (ATS) and the 1991 Adult Education and Training Survey (AETS) were commissioned by Employment and Immigration Canada (EIC). The shift to EIC reflects the world-wide trend to increasingly link adult education to the economic sphere, often under the heading of human resources development (e.g., OECD, 1992). The latter two surveys provide greater detail on employer involvement. A major difference between the 1984 survey and the two studies supported by EIC is that the former used motive as the organizing concept to collect information regarding participation ("during 1983 did you receive any instruction or training to upgrade job skills, including courses taken at work"; this was repeated for academic upgrading, personal interest, and practical knowledge). In the 1986 and 1991 surveys, length of programme was used as the organizing principle ("at any time during 1984 or 1985 did you take any courses full-time which lasted less than a month"; this was repeated for part-time courses, full-time training organized by the employer that lasted more than one month, and apprenticeship training. As stated above, these differences prevent meaningful comparisons of levels of participation between the 1984 study and the two latter surveys.

Survey Design

All three surveys have been supplements to the Statistics Canada Labour Force Survey (LFS) and given to a sub-sample of the dwellings in the LFS sample. The LFS sample is based upon a stratified, multi-stage design employing probability sampling in all stages. The monthly LFS sample consists of approximately 72,300 dwellings, of which about 61,700 dwellings are occupied by one or more eligible persons. In total, information is obtained for approximately 122,000 persons aged 15 and over. (For a detailed description of the LFS design see Statistics Canada Catalogue #71-526.) The adult education and training surveys have sampled around 90,000 people. The sample sizes in B.C. were 9,005 in 1984 , 7,167 in 1986 , and 8,040 in 1991.

There is a difference in the age groups included in the three surveys. While the 1986 survey was restricted to ages 18-64, the other two also include people 65 and older. Consequently, any comparisons between the three surveys in this report do not include people 65 and older.

Approximately 85 percent of the dwellings in LFS are interviewed by telephone. Only dwellings new to the LFS sample are contacted through a personal visit. The response rate has been around 93 percent.

Each person in the sample "represents," besides herself/himself, several other persons not in the sample. Through a weighting process it is possible, using the answers of those in the sample, to estimate population figures (e.g., "how many people in B.C. participated in part-time adult education in 1990?"). The accuracy of an estimated figure depends on the number of respondents who contributed to the calculation of the estimate. If this number is below a certain threshold, (e.g. 30 in the 1991 survey), the weighted estimate will not be released. Further, according to Statistics Canada guidelines, in order for an estimate concerning B.C. to be publishable in the minimum subgroup, the size has to be >23,000. Subgroup sizes of 10,000-23,000 are releasable with qualification, while those <10,000 are not releasable. In the report this will be indicated with "Q" for releasable with qualification, and "A" for estimates that are not releasable.

Amount of Adult Education and Training in British Columbia

In 1990, 25 percent of British Columbians participated in some form of adult education.[2] This is a substantially higher figure than the 21 percent in 1983 reported in the 1984 Adult Education Survey or the 16 percent in 1985 as estimated in the 1986 Adult Training Survey. Following the general trend in industrialized countries, it would be reasonable to expect increased participation in adult education in Canada and British Columbia. In this respect the decline from 1983 to 1985 seems illogical. However, as was already pointed out above, the 1984 survey used very different questions to measure participation, compared to those used in the later surveys. Again, the 1984 questions resembled *"Did you receive any instruction or training to upgrade job skills, including courses taken at work?"* while later, Statistics Canada used questions like *"At any time during 1984 or 1985 did you take any part-time courses?"* It is quite likely that questions like those used

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[2] In this study an adult is defined as a person who has completed his/her initial education and is returning to adult education. In the age group 17 to 24, there are a substantial number that are still doing their initial education and have therefore been excluded from the data set. Thus, if a person had indicated either that he/she still went to secondary school or went full-time to post-secondary education at the time of the survey, and had also been a full-time student six months earlier, they were excluded from the data.

in 1984 result in a larger number of people identifying themselves as participating. The only major difference between the two latter surveys is that in 1986 questions asked about participation in 1984 or 1985, while in 1991 the questions concerned the past 12 months. There is no obvious reason why this should have affected the outcome in a major way and it therefore seems reasonable to conclude that during the last five years in British Columbia there has been a substantial increase in participation in adult education.

In Table 1 the overall participation rate is broken down into the sub-categories used in the 1986 and 1991 adult education and training surveys.

Table 1. Participation in various categories of adult education in 1985 and in 1990 (Percent participation of adult population).

	1985	1990
Full time (≥ 1 month).	3	5
Apprenticeship training.	A	1Q
Full-time training organized or provided by employer (>1 month).	A	A
Short-term (<1 month full-time or part-time) courses or training.	14	21
Overall[3]	16	25

The overwhelming majority participated in short-term courses or training. This category refers to either full-time courses that last less than one month or part-time courses. In 1990, 7 percent of the adult population participated in short-term full-time courses and 16 percent in some form of part-time courses. In the latter group are some that also took short-term full-time courses and due to this double count the figure is larger than the 21 percent shown in Table 1. The category "Full time" refers to education taken at a college, a university, a trade school or a commercial school.

The increase between the two surveys is evenly spread and the various categories have, in relative terms, expanded to the same extent. So few people indicated that they had participated in an employer program lasting more than a month, that the estimate is too uncertain to be released.

[3] A person could have participated in more than one category of adult education.

Who Are the Participants?

Research on participation clearly demonstrates the extent to which adult education operates as a second "creaming". In general it is the well-educated middle and upper classes in the age group 25-40 that have dominated adult education. Thus, when looking at the B.C. data, the issue is not if there are differences with regard to previous education, socioeconomic group, age and so on, but how large the differences are. It is also important to look at the differences in relation to the situation in other countries and to changes over time in B.C.

Educational Attainment

Total participation by educational attainment is presented in Table 2.

Table 2. Total participation by educational attainment.

	1985 % participation	Diff.	1990 % participation	Diff.
Elementary education	3		6	
High school	11		18	
Some post-secondary education	28	22	40	34
Post-secondary diploma	27		29	
University	25		40	
Overall	16		25	

Table 2 shows the strong link between pre-adult and adult education. Those that have gone on to some form of post-secondary education are more likely to engage in adult education than are individuals that have an elementary or high school education. The rate of participation was particularly low among those with only an elementary education or some secondary education (10 percent of the latter participated in 1990[4]). During the five year period the differences between the well educated and the educationally disadvantaged increased. The difference between those with a university education and those with an elementary education was 22 percentage points in 1985 but had increased to 34 percentage points by 1990.

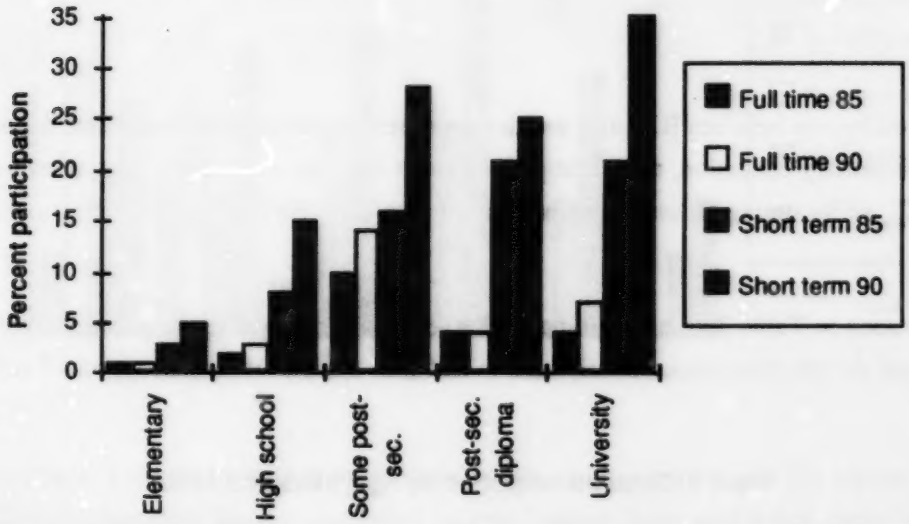
Between 1985 and 1990, those with a university education increased their rate of participation by 15 percentage points (25-40) while those with only an elementary education had an increase of 3 points (6-3). In relative terms the increase was, of course, much larger among the latter, but this has to do with the fact that they started from a low rate. Expressed differently in

[4] In the 1991 survey the 1986 category "high school" is devided into "some secondary education" and "Completed high school".

latter, but this has to do with the fact that they started from a low rate. Expressed differently in 1985 the ratio between the highest and lowest participation rate was about 1 to 9 and by 1990 it had dropped to about 1 to 7.

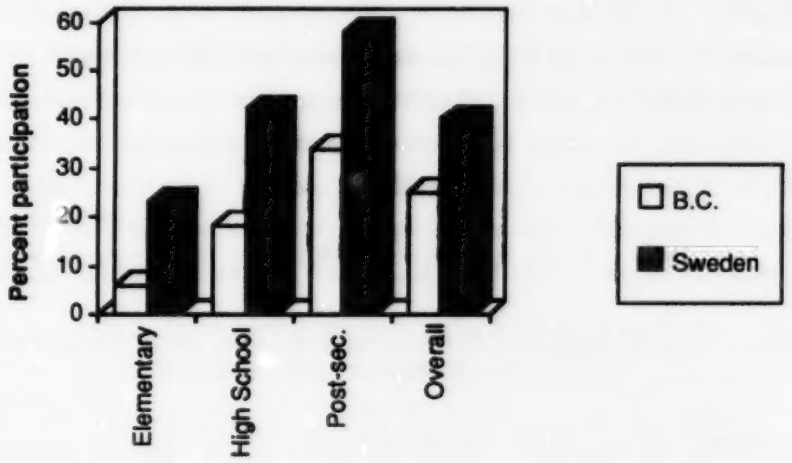
According to Table 2, the group "Some post-secondary education," which includes a large number of young adults, showed a marked increase in participation between 1985 and 1990. This reflects the expanded economic focus on education and growing credentialism. In order to compete in the labour market it is increasingly seen as being important, particularly among younger adults, to have a diploma and or degree. As can be seen in Chart 9, the increase for this group was relatively larger for part-time (short-term) studies than for full-time studies.

Chart 9. Participation in full time and short term adult education by educational attainment (1985 and 1990)



It is interesting at this point to compare total participation in adult education in B.C. and Sweden, as comparable data are available. Sweden has one of the highest participation rates in organized adult education of OECD countries and has introduced a comprehensive strategy intended to increase participation among the educationally disadvantaged groups. As can be seen in Chart 10, the overall participation rate in Sweden in 1989 (Swedish Census Bureau, 1991) is higher and the differences smaller than in B.C. in 1990.

Chart 10. Participation in adult education by educational attainment in B.C. (1990) and Sweden (1989)



The difference between B.C. and Sweden decreases as educational level rises. Among those with an elementary education, the participation rate in Sweden was almost four times as high as that in B.C., while among those with some form of post-secondary education, the ratio was 1.7:1.

Age

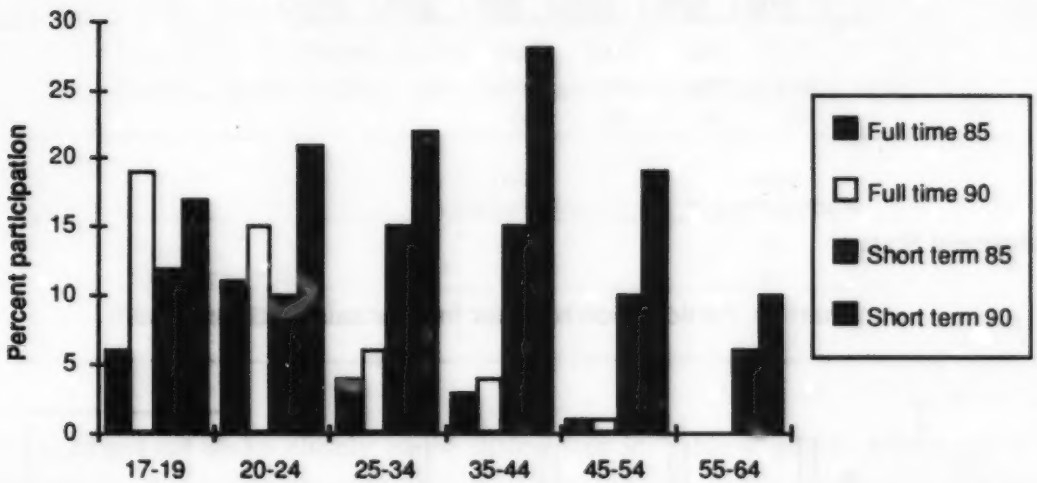
As can be seen in Table 3, total participation stayed at a high level up to about 45 years of age and dropped sharply thereafter. Participation in full-time adult education dropped off earlier (see Chart 11).

Table 3. Total participation by age, 1985 and 1990.

	1985 % participation	1990 % participation
17-19	19	35
20-24	23	36
25-34	20	27
35-44	18	32
45-54	11	20
55-64	6	10
Overall	16	25

The largest absolute increases occurred among those under 45 years of age. However, due to the low initial participation the relative increase is highest among those aged 45 years and older. Chart 11 reflects a difference between these two groups in that the increase among the latter was almost exclusively in short-term adult education while the former increased their enrolment in full-time and short-term adult education to roughly the same extent. The large increase in full-time adult education among the youngest group has to with the fact that the sample in the 1986 survey only included ages 18-19, while the 1991 survey included ages 17-19.

Chart 11. Participation in full time and short term adult education by age (1985 and 1990)

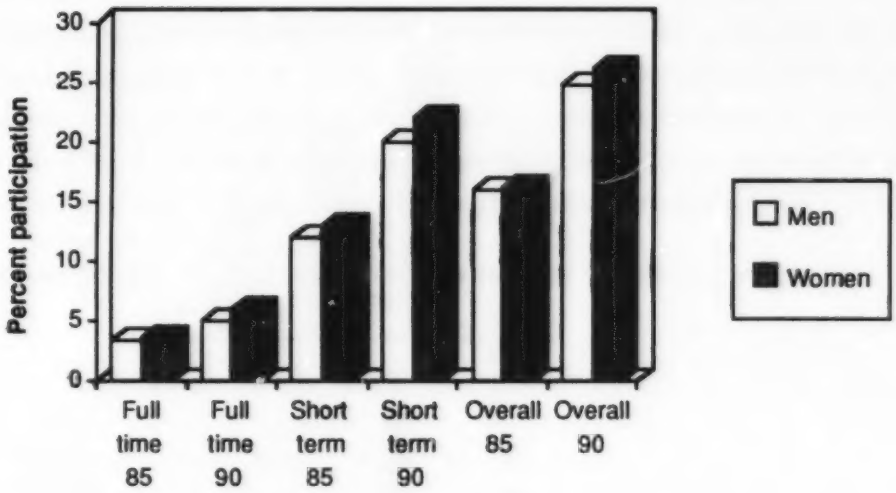


The impact of age on participation is related to educational attainment. The higher the level of education, the less participation decreased by age. Among those with a university education the participation rate in 1990 varied from a high of 47 percent in the 35-44 age group to 28 percent in the 55-64 age group, while the figures for those who had not completed high school varied from a high of 18 percent in the 17-19 age group to a low of 4 percent in the 55-64 age group.

Gender

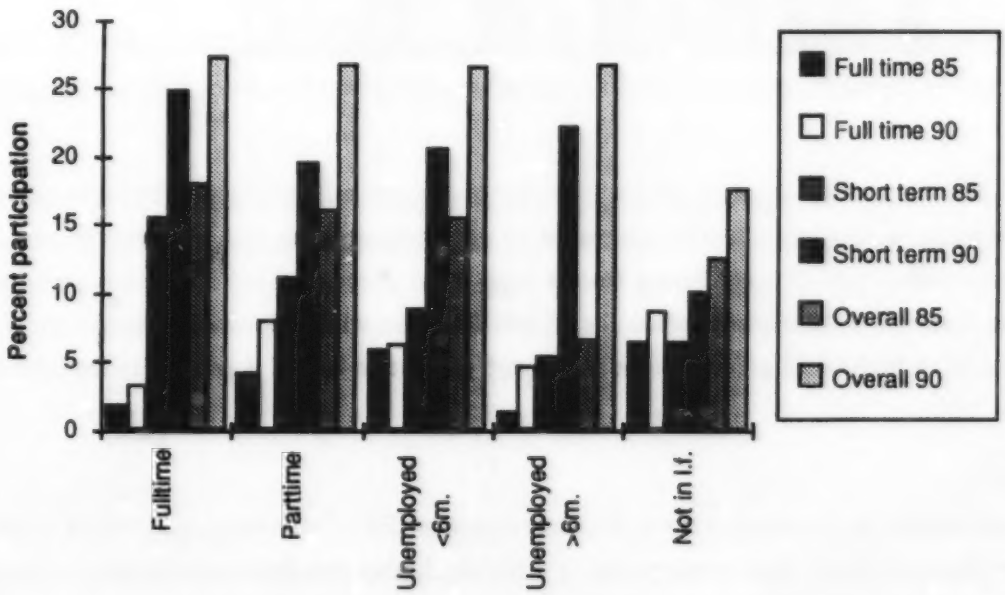
Men and women participated to about the same extent in 1985. Since then, as shown in Chart 12, women have increased their participation at a slightly higher rate than men. Gender differences in the nature of adult education courses taken will be discussed in later sections.

Chart 12. Participation by gender (1985 and 1990)



Employment Status

Chart 13. Participation by labor force status (1985 and 1990)



In 1985, participation was substantially lower among the long-term unemployed. No such difference appeared in the 1990 survey. Part of the explanation is that between the two surveys the number of long-term unemployed decreased considerably and the composition of the group "long-term unemployed" changed. Thus in 1990 the group contained a relatively large number of people with a community college diploma. As can be seen in Chart 13, the long-term unemployed increased their participation in both full-time and short-term adult education, while the increase among short-term unemployed occurred primarily in the latter. The developments among full-time and part-time workers were quite similar.

Public employees had a higher participation rate than persons employed in private business. Table 4 shows that the difference increased from 8 percentage points in 1985 to 10 percentage points in 1990.

Table 4. Overall participation by class of worker, 1985 and 1990.

	1985 % participation	1990 % participation
Private	16	26
Government	24	36
Overall	16	25

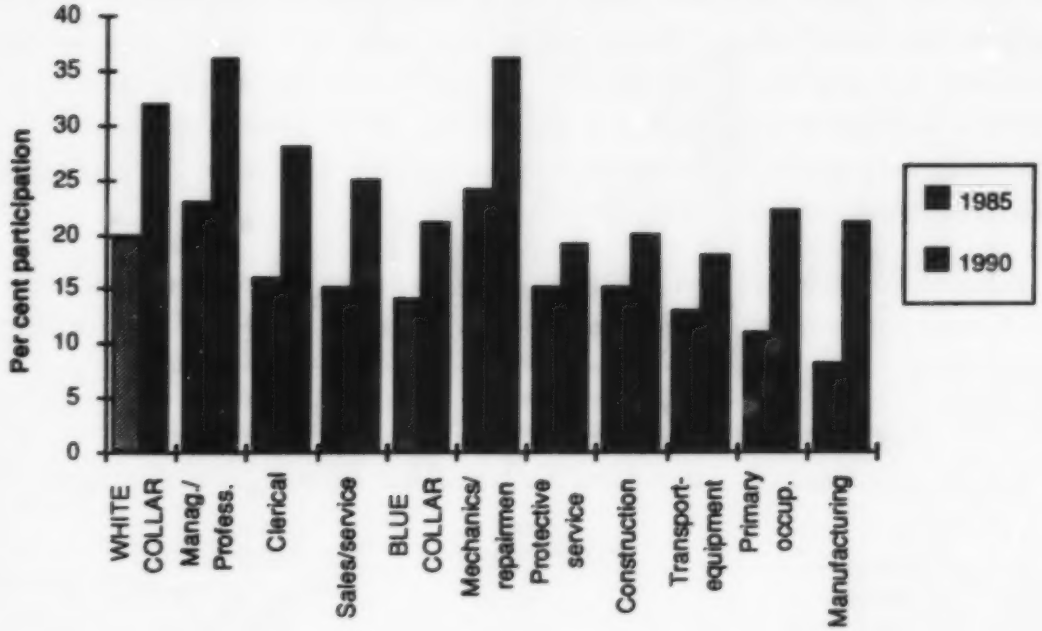
Looking a bit more closely at the differences in Table 4, public employees in all educational levels except university education, where there was no difference, had a higher participation rate than did employees in private industries.

Occupation

Chart 14 shows that the difference in participation of white-collar and blue-collar workers has increased somewhat. In 1985, the difference was 6 percentage points and in 1990, 11 percentage points. These aggregate figures hide great differences within each category. For example, "Mechanics", a well-educated group within the blue-collar categories, showed the second highest participation rate among all occupations.

The increase in level of participation during the period has varied. It is worth noting the dramatic relative and absolute increases in the categories "Manufacturing" and "Primary industries." The smallest increases have been among those in blue-collar, construction and transportation equipment operating jobs.

Chart 14. Overall participation by occupation (1985 and 1990)



Employer Support

As a result of the emergence of an information economy in the 1980s, adult education has become more closely linked to the world of work. This means that the opportunity to participate increasingly depends on opportunities offered in connection with the kind of employment a person holds and/or possibilities to participate in some form of publicly financed labour market training program.

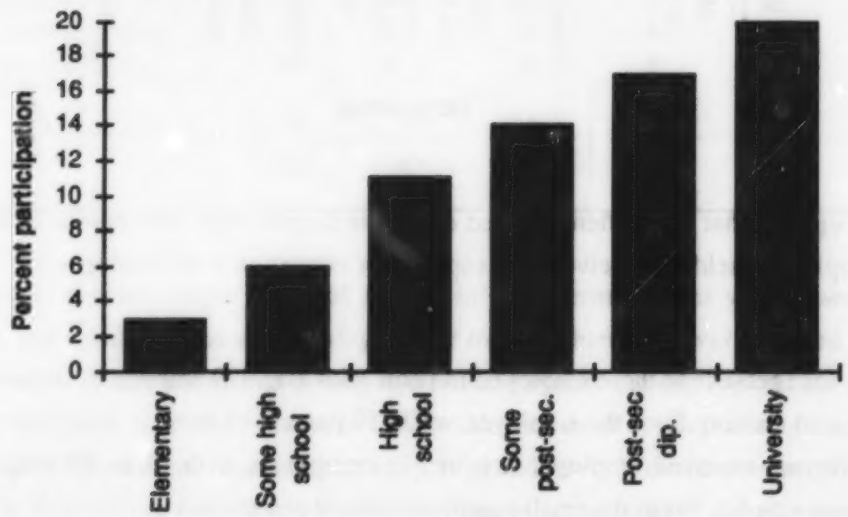
In 1990, for at least 200,000 people in B.C. the participation was in some way related to their employer. Either the employer paid the fees, provided another kind of subsidy or offered the course/training, or it was an apprenticeship program. The 200,000 figure is an underestimation, as the information regarding the courses only relates to the last course taken. Quite a number of people took more than one course and it is very likely that though the last course may not have had anything to do with the employer, a previous course might have had some connection. Thus the 200,000 figure, which represented around 13 percent of all employed British Columbians or 42 percent of all participants in B.C., is an underestimation of the close link between employment and participation in adult education.

The opportunity to benefit from employer support was far from equal. Men received support more often than women, 15 percent of male workers versus 11 percent of female workers. This can only partly be explained by the fact that women work part-time more often than men: among those with full-time work, women's level of participation was 2 percentage points lower than for men. The difference, although significant, was much smaller among those with part-time work — just half a percentage point. Thus women had a double disadvantage. First, they had a lower participation rate in the labour force, and second, those employed received less support than male employees.

Those publicly employed more often received support from their employers than did their counterparts in private companies, 13 versus 21 percent. Controlling for educational attainment, this difference holds true for every educational attainment level except university education, where those in private industry most often received support. If apprenticeship is excluded, the difference between the public and the private sector is even larger.

The availability of employer support for part-time employees was restricted. Only 5 percent of part-time employees received some kind of support, compared to 15 percent of those employed full-time.

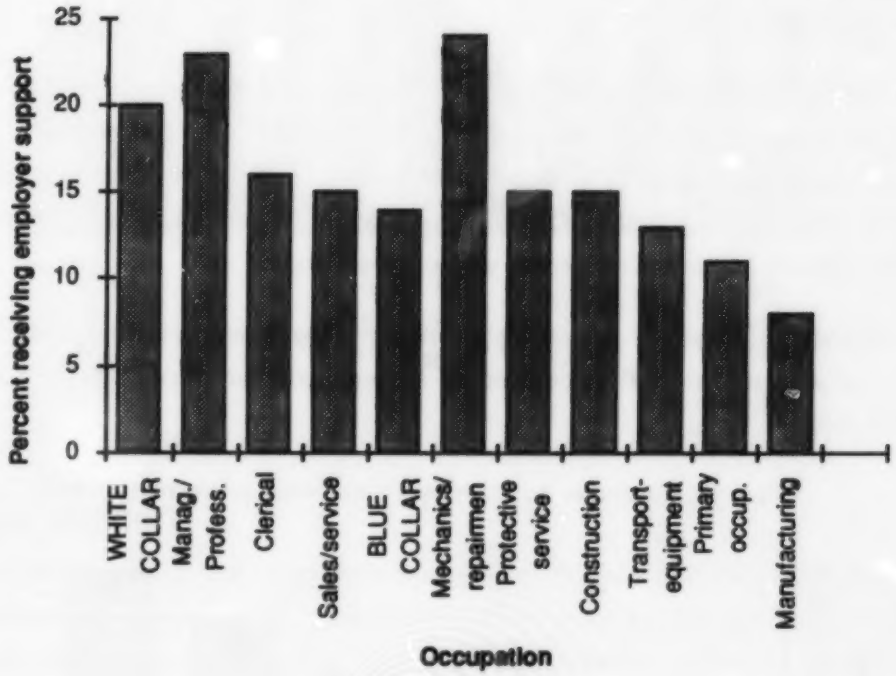
Chart 15. Employer support by educational attainment (1990)



A person's hierarchical position within the workplace has been shown to have a major impact on one's opportunity to participate in adult education. Not only are there more courses

available and offered to those in higher positions, but such persons also have a job that stimulates an interest in learning. As shown in Chart 15, there was a direct relationship between the level of educational attainment and employer support. This varied from a low of 3 percent for those with only an elementary education to a high of 24 percent for those with a university education, a difference of 1 to 8.

Chart 16. Employer support by occupation (1990)



The occupation that most often received employer support was "Mechanics." Occupations where the employees seldom received any support for education and training were "Services" and "Primary."

Twenty-four percent of those employed in firms with 100-499 employees received support for education and training from the employer, while 19 percent of those in companies with 500 or more employees received employer support. In companies with 21 to 99 employees, 16 percent received support, but in the small companies only 9 percent did.

Types, Duration and Location of Short-term Courses

Field of Studies

Field of studies refers to the last short-term course taken. There is no reason why the last course would differ in a systematic way from courses taken earlier in the year and one can therefore assume that the data provide a representative picture of major fields of study. As shown in Table 5, no dramatic changes have occurred between 1985 and 1990.

Table 5. Major field of studies by sex, 1985 and 1990 (Percentages).

	1985			1990		
	Total	% Men	%Women	Total	%Men	%Women
Education recreation courses	7Q	36Q	64Q	5Q	21	79
Fine/applied arts	6Q	20Q	80Q	5Q	32Q	68Q
Humanities	9Q	42Q	59Q	9	33	68
Social sciences	9Q	55Q	45Q	7	55	45
Commerce	25	40	61	24	46	54
Agriculture/ biological science/ technologies	A	A	A	4Q	38Q	62Q
Engineering applied science technologies and trades	A	A	A	A	A	A
Engineering/ applied sciences/ technical	20	75	25	21	69	31
Health professions	10Q	48Q	52Q	12	45	55
Material/ physical science	A	A	A	A	A	A
Personal development/ recreation.	8Q	45Q	56	8	37	63
Other	A	A	A	A	A	A
Total	100	47	53	100	48	52

The most common major fields of studies in short-term courses were *Commerce* and *Engineering and applied science technologies and trades*. There were very marked differences between the sexes. Males dominated in only two fields: *Engineering and applied science technologies and trades*, and, to a lesser extent, in the *Social sciences*. It is worth noting that, regarding the former, the difference had decreased between 1985 and 1990. Women were particularly over-represented in *Education, recreation, counselling*; *Fine and applied arts*; and *Humanities*.

Table 6. Five most common areas of studies, 1985 and 1990 (Percentages of all courses).

	1985	1990
Data process. and comp. technologies	8Q	10
Financial management	6Q	8
Business and commerce	6Q	4Q
Medical equipment	6Q	5Q
Recreational activities	5Q	(3Q)
Personal development	A	5Q

In individual areas of study, Table 6 shows that four areas were among the top five in both 1985 and 1990. Between 1985 and 1990, participation in *Financial management* almost tripled and participation in *Data processing* more than doubled. The most dramatic change was in *Personal development*, where enrolment almost quadrupled. Despite a generally large increase in participation in short-term courses, the number of participants in *Recreational activities* decreased slightly.

Provider

According to the figures in Table 7 there has been a trend towards a greater diversification of providers for short-term adult education and training.

Table 7. Provider of Instruction, 1985 and 1990 (Percentages).

	1985	1990
University	12	10
Community college	30	25
Vocational school	A	5Q
Private and commercial school	7	11
Employer	22	21
Union/professional association	12	n/a
Other	15	28

The proportion of students enroled in universities and colleges has increased but not at the same rate as in private and commercial schools. In 1985 universities and colleges enrolled 32 percent of all participants, and in 1990 the figure was down to 25 percent. During the same period participation at private and commercial schools increased from 7 to 11 percent. This trend reflects governments' active policy to increase the private sector's involvement in education and

training. Increasingly, public funds are used to purchase education and training from private and commercial schools.

Employers are a major provider of short-term education and training. Twenty-one percent of those participating in 1990 stated that the course was taken at work; little changed from 1985. The wording of the question may have resulted in an underestimation of the involvement of an educational institution, private or public. When asked "was the course or program taken at work?" the respondent may have referred to where the course physically took place and not who organized it.

The second largest category in 1990 was "Other." One reason that it is much larger in 1990 than in 1985 is that "Union/professional associations" has been included under "Other." After a closer look at what was listed under "Other," a rough estimate is that 6 percent of the total number of courses were provided by school boards and another 6 percent referred to "study at home by correspondence."

The different providers serve somewhat divergent groups. Women were more often enroled in community colleges than men — 29 versus 20 percent — while men more often than women took courses offered at work — 27 versus 16 percent. The educationally disadvantaged were over-represented in community colleges (31%) and private or commercial schools (15%) but under-represented at courses taken at work (15%). As could be expected, a majority of those that went to universities already had a university education .

Length of Study

Twenty-five percent of those in short-term courses stated that their last course had a total length of 10 hours or less. One out of two had participated 24 hours or less, and only 25 percent went for 60 hours or longer. The equivalent figures for 1985 were: 15, 30 and 50 hours. This shows that the large increase in short-term training during the period has occurred at the two ends of the spectrum, that is, in very short courses, particularly those one day in length, and in courses longer than 50 hours.

Women spent more time in the courses than men (the median for men in 1990 was 24 hours compared to 30 hours for women). There was no difference in median length of course between highly educated and educationally disadvantaged participants.

Student Financing

A major difference between the two (1985 and 1990) periods is the number of participants who reported that they had to pay fees. In 1985, 21 percent reported that there were no fees. By 1990, this figure had dropped to 3 percent. This result is difficult to interpret, as the question was asked differently in 1985 and 1990. In 1985 an initial question asked whether or not there had been any fees. Those answering "yes" were asked a follow-up question regarding who had paid the fees. In 1990, the interviewer asked "Who paid the fee or tuition for this course? Was it _____?" It is, of course, impossible to state how much of the apparent increase in the number of students having to pay fees was due to the change in wording and how much was due to actual changes in institutions' policies.

In 1985, just over half of those who paid fees stated that they or their families paid the fees. Twenty percent had them paid by the employer, and 3 percent by someone else. A significant difference in 1990 was that employers paid the fees to almost the same extent as the participant or his/her family: 41 versus 50 percent. Four percent in 1990 stated that the fees were paid by government.

CHAPTER 4
CONCLUSIONS AND POLICY ISSUES

It is evident that the advantages which British Columbia has had, owing to an early expansion of secondary and post-secondary education, are quickly being eroded. Other countries, such as Japan and several northern European countries, have more recently expanded their systems. This means that they will have access to an increasingly well-educated workforce as measured by years of schooling. As a result, British Columbia will increasingly have to compete by (a) enhancing the quality of existing schooling at both the secondary and post-secondary levels, and (b) increasing the number of people periodically returning to education and training during their working lives. Although the focus of this report is on participation in adult education, initial education will be briefly discussed, as it forms an important part of a "system" for lifelong learning.

Initial Education

The continuing high wastage in high schools is alarming. This represents a loss of human capital that is one of the major weaknesses in the effort to achieve a competitive economy in British Columbia. The dropout rate is a threat not just to the economy but also to the very notion of a just and fair society. The combined effects of technological and organizational changes make it increasingly difficult for those who drop out to enter the labor market — and when they do so, they get locked into low-skilled jobs that lack security.

Tackling the high dropout rates must become the number-one priority. Not only will the lack of at least a high school education increasingly make it difficult for an individual to fully participate in society, it will also reduce our overall economic competitiveness. Despite all the concern that has been voiced, and initiatives like the recent "Stay in School" campaign, one cannot help feeling that there exists an underlying assumption that the wastage is inevitable and that not very much can be done about it. Curriculum changes, such as those recently suggested by the British Columbia Royal Commission on Education (Sullivan, 1988), certainly take the dropout question into account, but there is no concentrated effort to amend this very serious problem. Instead, it becomes just one among many issues that the school system is asked to address.

It is important to recognize that the causes of dropping out are to a large extent outside the school system, and that the schools should not be made scapegoats. Longitudinal research has clearly demonstrated that the family and socio-economic factors play an important role in the dropout phenomenon. Thus, any strategy to deal with dropouts will have to grapple with the out-of-school environment. Of priority should be quality day care, which can partly compensate for lack of educational stimulation in the home, and after-school facilities.

While bearing in mind that there is only so much that the schools can do, the public must be made aware that 30 percent dropout rate is no longer tolerable. Targets should be identified and a British Columbia-wide task force should be mandated to study ways to deal with the issue.

Recurrent Education

A broad review of policy documents of each of the three sectors that constitute a 'system' of recurrent education — initial education, post-secondary education and adult education and training — leads to the conclusion that, although there is increasing awareness of the necessity for some form of recurrent education, the emphasis is still almost entirely on the various parts, rather than on a comprehensive framework for promoting life-long learning and recurrent education. This applies not only to the various components of the educational 'system' but also to an evident lack of integration between various policy sectors: the economy and the labor market, education, and social services.

Further, particular issues such as student financing are not discussed in the context of recurrent education. The roles of paid educational leave and many other potential options for funding participation in recurrent education need to be included in the discussion. Thus, despite numerous rhetorical references to lifelong learning, the model that drives policy discussion in British Columbia is still the traditional front-end model of education. While improvements to British Columbia's formal educational systems will bear economic fruit in the long term, improvements to adult education and training promise immediate results.

Participation in Adult Education

The changing economic realities have brought adult education to the forefront of public policy discussions. Despite protests from some quarters of the educational enterprise, the concepts, competitiveness and employability, frame the present thinking about education and adult education. The fear of not having the necessary human resources to be able to compete on the world market and maintain the material base for our present standard of living has created a

stronger social demand for adult education. The sharp increase in participation in adult education between 1985 and 1990 reflects the impact of economic forces on adult education. The data on who pays the fees, with a dramatic increase in the number of students reporting their fees were paid by their employer, suggest that the increase partly results from more employer involvement in adult education. Although recent developments are encouraging, there are several reasons to continue to be seriously concerned about the extent of participation in adult education in this province, including the following four issues: overall level of participation, length of participation, distribution of participation across various segments of the population, and shifting balance between the private and public sectors.

A participation rate of 25 percent, although vastly improved in recent years, is from an international perspective, not very impressive. Sweden reports a rate of 42 percent (Swedish Census Bureau, 1991) and the U.S.A. 38 percent (National Center for Education Statistics, 1991). It should be noted that the Swedish and U.S. figures are calculated somewhat differently and are based on adults 17 and over but excluding those enrolled full-time in high school. Using a similar criteria to estimate the B.C. participation level, the figure was 28 percent, still far below Sweden and the U.S.A. Thus, at the same time as British Columbia is losing its edge in the formal education system, it must also overcome serious deficiencies in adult education and training. To a large extent, British Columbia may be said to lack a "training culture", particularly in its private sector, at a time when this culture is vibrant among many of our principal competitors in Europe, in Asia, and south of the border. This lack is costly because it inhibits British Columbia's capacity to adapt quickly to new technologies. Overcoming this problem is one of the principal challenges to the British Columbian economy in the 1990s.

International comparative information points to the fact that reliance on the market as an incentive to train is not sufficient; overall strategies are essential. Where they exist, they bear fruit. Canada needs a national strategy, which would involve commitment not just from the federal government but from the provinces and the other social partners.

The B.C. data show that large part of participation occurs in courses of very short duration. In 1990 half of the short-term courses lasted 24 hours or less. In fact, 25 percent were 10 hours or shorter. Such courses do little to increase human resource potential. This is particularly true for the educationally disadvantaged, who do not in any real way improve their educational capital by participating in a 10- or 15-hour course.

Findings regarding characteristics of participants suggest that those who might have benefited greatly from adult education did not participate. Those that went on to some form of

post-secondary education were more likely to engage in adult education than were individuals that had an elementary or incomplete high school education. Comparisons of participation in 1985 and in 1990 showed that the gap between those with the highest and those with the lowest education was increasing. The large differences, and the low participation levels of those most in need, are problematic from the perspective of equality as well as of economic efficiency.

People with low literacy and numeracy skills tend to avoid situations that require these kind of competencies. Low educational attainment hampers a person's chances to exercise influence in society, and thus limits that society's development towards participatory democracy. With politicians, economists, educators and industrialists constantly referring to human resources as the "New Jerusalem" and the solution to most economic problems, educational competencies are becoming increasingly important for a person's employability and economic survival. From an economic competitiveness perspective, it is important to pay sufficient attention what happens to the human resources among those at the lower end of the continuum. The possibility of fully utilizing the new information technology and a non-Taylorist work organization in striving for increased productivity depends on the knowledge, intellectual ability and social competencies of the workforce (Ellström, 1992). It is interesting to note that the adoption of quality circles within the Japanese manufacturing sector has been dependent on an increasingly well educated labor force (Watanabe, 1991). Thus, returning to the comparison of participation in adult education in British Columbia and Sweden, it can be argued that a distribution like the one in Sweden provides an advantage in economic competitiveness as it strengthens human resources at the lower end of the continuum.

The growing link between work and participation in adult education creates a major policy dilemma. First, there are major inequalities in access to employer-sponsored education linked to the work hierarchy, which creates problems for a government trying to close educational gaps in society. Second, when participation increasingly depends on (a) the employer and (b) what can be offered to the unemployed in the form of labor market training, the choice to engage in general interest courses, including citizenship, will be severely restricted.

Policy Options

Clearly, British Columbia is under-investing in adult education and training when viewed comparatively. Greater investments and new strategies are needed from both the federal and provincial levels of government as well as from the private sector. The role of the public sector is to animate a comprehensive strategy, and to assist workers in danger of being displaced as well

as those with a marginal attachment to the labor market. The private sector role is to build employee training into investment strategies.

In searching for a strategy for recruiting disadvantaged adults, the comparison between British Columbia and Sweden (Chart 10) provides some direction. The chart shows (a) that Swedish public policy, with its strong emphasis on equality expressed through ear-marked programs, can increase participation of disadvantaged groups (comparisons *across* countries), and (b) that even far-reaching efforts like those in Sweden have limited ability to counteract inequalities established in the family and increased through schooling and working life (comparisons *within* Sweden). The ear-marked strategy involves an active outreach program at work and in the neighbourhood. In the latter case, the work is done through various ethnic groups and other possible member groups. A special adult student aid program directed to those most in need and linked to a general right to educational leave provide added stimulation. Further, public funding for popular adult education provided by various popular movements has made it possible to move adult education closer to the everyday life of the target groups. A strategy that implicitly takes for granted that the adult is a conscious, self-directed individual in possession of the instruments vital to making use of the available possibilities for adult education — a system that relies on self-selection to recruit the participants — will by necessity widen, not narrow, the educational and cultural gaps in society.

Special effort should be directed towards identifying new forms of financing for employer-sponsored education. This could involve some kind of joint fund to which employers, employees and governments contribute. Various European countries have ratified the International Labour Organization's Convention 140 on Education Leave of Absence. As a result, substantial funds from employers have been directed into employee education. In these cases, development in financing and institutional arrangements lie somewhere in the zone between the state and that which is purely private (Clement, 1983). This option deserves serious consideration in British Columbia. While such initiatives have been resisted by B.C. employers in the past, growing recognition of the cost to the economy of inaction suggests that the time may be ripe for fresh consideration of new approaches to stimulate on-the-job and in-service training in British Columbia. This suggests the need to promote a "training culture" in British Columbia.

What happens with regard to human resources development will only partly depend upon measures taken in the educational arena, because the demand ultimately depends upon what takes place in the labor market. It is essential to bear in mind that there is no deterministic link between new technology and the demand for a better skilled workforce. Instead, these two factors are mediated through the organization of work. Building flexibility into the British Columbian

economy requires that a Taylorist work organization system be replaced by an alternative system that gives more responsibility to the individual or team of workers. This process is underway, but needs to be accelerated. The comparatively low amount of education and training taking place in the British Columbian labor force can be seen as a result of a work organization which has failed to integrate learning and work. In order for a major change in human resources development to occur in British Columbia, there has to be a cultural shift to embrace new modes of production. This assumes a capital-labor compromise, and government has a key role to help overcome adversarial industrial relations so as to enable this new culture.

As with many aspects of our province's society, a paradigm shift is required in how we look and optimize the relationships between learning and work. Adult education and training, as part of a comprehensive, recurrent education framework must be a powerful tool in this paradigm.

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